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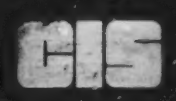

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Calendar No. 826

101ST CONGRESS *2d Session*	SENATE	REPORT 101-463

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION AUTHORIZATION ACT OF 1990

Mr. HOLLINGS, from the Committee on Commerce, Science, and Transportation, submitted the following

R E P O R T

together with

ADDITIONAL VIEWS

OF THE

SENATE COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION

ON

S. 2788

SEPTEMBER 14 (legislative day, SEPTEMBER 10), 1990.—Ordered to be printed.

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101ST CONGRESS
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REPORT
101-463

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION AUTHORIZATION ACT OF 1990

SEPTEMBER 14 (legislative day, SEPTEMBER 10), 1990.—Ordered to be printed

Mr. HOLLINGS, from the Committee on Commerce, Science, and Transportation, submitted the following

REPORT

together with

ADDITIONAL VIEWS

[To accompany S. 2788]

The Committee on Commerce, Science, and Transportation, to which was referred the bill (S. 2788) to authorize certain programs and functions of the National Oceanic and Atmospheric Administration, and for other purposes, having considered the same, reports favorably thereon with amendments and recommends that the bill as amended do pass.

PURPOSE OF THE BILL

S. 2788 would authorize appropriations of $1,411,708,000 for fiscal year (FY) 1991 for program support and certain oceanic and atmospheric programs of the National Oceanic and Atmospheric Administration (NOAA). Authorizations provided in the bill are for NOAA activities in addition to those programs reauthorized under separate statute. The bill also provides for (1) development of a joint five-year hurricane reconnaissance program by the Department of Commerce (DOC) and the Department of Defense (DOD); (2) transfer of authority for the archiving of land remote-sensing data from DOC to the Department of the Interior (DOI); (3) development of a comprehensive national program for environmental monitoring of marine and coastal waters; and (4) establishment of the Florida Keys National Marine Sanctuary.

Background and Needs

NOAA was created by Presidential Reorganization Plan No. 4 of 1970 to consolidate many of the Nation's civilian oceanic and atmospheric programs. The agency's broad goals include the operation of programs to: (1) manage marine resources for the economic and social good of the Nation; (2) monitor and predict weather and environmental conditions for the protection of life and property; (3) provide basic maps, charts and surveys for safe navigation; (4) conduct research to advance oceanic and atmospheric technology for the better management of the environment and the rational use of our natural resources; and (5) operate satellite systems to provide national and global information.

NOAA's management structure consists of nine staff offices (program support) and five line offices. These line offices are: the National Weather Service (NWS); the Office of Oceanic and Atmospheric Research (OAR); the National Environmental Satellite, Data and Information Service (NESDIS); the National Ocean Service (NOS); and the National Marine Fisheries Service (NMFS). The programs considered in this legislation comprise the majority of the oceanic, atmospheric, and staff support activities within NOAA's Operations, Research, and Facilities account.

For FY 1991, the Administration has requested $1,248,734,000 for the programs authorized under this legislation. Funding at this level is intended to maintain essential atmospheric and oceanic programs as well as support significant increases for three of NOAA's highest priority programs: NWS modernization; climate and global change; and coastal ocean science. As in past years, the FY 1991 budget request proposes to terminate several Congressionally-supported programs considered non-essential by the Administration. However, other programs, like the National Sea Grant College Program and Coastal Zone Management, have received Administration support in FY 1991 for the first time in eight years. The Committee supports adequate funding for NOAA to continue its current services as well as to meet growing requirements for addressing oceanic and atmospheric problems.

NATIONAL WEATHER SERVICE

NWS is responsible for providing public weather and flood warnings, forecasts and advisories for all of the United States, including its territories and adjacent ocean areas, primarily for the protection of life and property. A nationwide network of about 300 facilities collects data, prepares state and local weather updates, and disseminates information to the public both directly and indirectly through the mass media.

New satellite, computer, radar, communication and measurement technologies provide the potential for improved weather information and protection from weather hazards. In addition, components of the existing NWS public warning system have become obsolete and, in some cases, maintenance parts are no longer commercially available.

For these reasons, NWS has made a substantial commitment to a modernization and restructuring program which includes updating weather radars, observation systems, and telecommunications and

data processing capabilities. The principal components of the NWS modernization are: the Next Generation Weather Radars (NEXRAD), a joint program with the Federal Aviation Administration (FAA) and U.S. Air Force to replace existing radars with an advanced doppler radar warning system; the Automated Surface Observing System (ASOS), sponsored jointly with FAA, which will reduce time-consuming manual observations of meteorological conditions at ground level; the Advanced Weather Interactive Processing System (AWIPS), an information management and display system which will integrate data from satellites, ground-observing systems, and radar units for the first time, and will include the communications capability (NOAA-PORT) needed to provide users with access to NOAA's environmental data; and acquisition of a Class VII computer for the National Meteorological Center (NMC) which will improve larger scale, centrally-prepared weather guidance products essential to accurate forecasting in field operations.

In March 1989, NWS submitted to Congress the "Strategic Plan for the Modernization and Associated Restructuring of the National Weather Service." This strategic plan proposes an organizational structure for the modern Weather Service, and outlines procedures for shifting funding and staff levels to achieve modernization and for evaluating the new systems before they are incorporated into NWS operations.

For NWS, the Administration's budgt request includes funds to continue the modernization program. The Administration has proposed a total of $177,467,000 for systems acquisition for FY 1991, an increase of $76,526,000 over the FY 1990 level. These funds are needed to continue the NEXRAD, ASOS, AWIPS/NOAA-PORT, and Class VII computer procurements. An increase of $11 million is included for the multi-site demonstration program associated with this modernization. The request also proposes termination of specialized weather services such as agriculture weather services. The Committee recognizes the importance of maintaining the NWS modernization schedule and supports the Administration's proposed enhancements for NWS activities. However, the Committee also supports the continuation of current services for those NWS programs that are propsoed for reduction in the Administration's budget request.

During the Committee's consideration of the legislation, a number of issues was raised regarding the national public weather warning and forecast system. The first concerns the closing, consolidation, automation, or relocation of Weather Service Offices (WSOs) or Weather Service Forecast Offices (WSFOs) as part of the modernization effort. Pursuant to the 1988 NOAA authorization legislation (title IV of Public Law (P.L.) 100-685; 102 Stat. 4097), the Secretary of Commerce (Secretary) must certify that the closing, consolidation, automation or relocation of a WSO or WSFO will not result in any degradation of weather services provided to an affected area.

NOAA has already initiated steps to satisfy portions of the new certification provisions. The National Implementation Plan submitted annually to Congress by NWS provides a three-year look ahead at modernization activities. The Plan describes significant events expected to occur in each state and provides advance notice of the

Secretary's intention to certify services. In general, this approach should provide Congress and the affected areas with at least a three-year notice prior to the Secretary's submission of a certification letter. Actual certification, however, must rely on operational testing in an affected area to ensure that no degradation of services has occurred.

The Committee understands that the National Academy of Sciences (NAS) is already under contract with NOAA to review the certification process required by Public Law 100-685. NAS will: (1) review the methodology used by NWS in the certification process; and (2) perform its own independent review of the operational demonstration required. The Committee recognizes that the modernization effort will result in NWS weather office closings and other changes to the NWS field office structure, and does not intend that the certification process interfere with the use of modern technology for NWS activities. At the same time, however, a more objective evaluation of the effects of those restructuring actions associated with the modernization plan is needed to reassure local communities that they will not lose essential weather services. In addition, both Government and private sector meteorologists have stressed that adequate training and experience of site personnel will be essential to ensure full and effective use of the new weather observing systems.

The second area of concern is continuation of DOD support for the Air Force hurricane reconnaissance program. Since the 1940s, the "Hurricane Hunters," an Air Force WC-130 squadron, have collected critical information for accurate advance warnings of hurricanes and severe storms in coastal areas. However, as a result of budget pressures, DOD has proposed to transfer the hurricane reconnaissance aircraft and the overall responsibility for the program to NOAA. In response to the DOD proposal, the Secretary has stated to the Secretary of Defense that DOC currently does not have adequate resources to assume this hurricane reconnaissance responsibility. In addition, legislation has been introduced in both the House and the Senate to require the Secretaries of Defense and Commerce to establish a five-year joint weather reconnaissance program. The Committee recognizes that a failure to support adequately these surveillance activities could result in an increased risk to life and property, particularly if hurricane observations from NOAA's geostationary satellites are disrupted. Although DOD has agreed recently to maintain the program for the foreseeable future, concerns remain regarding the need to ensure that the reconnaissance flights continue and to prohibit transfer of the planes from DOD unless all involved parties agree to the transfer.

OCEANIC AND ATMOSPHERIC RESEARCH

OAR supports a number of oceanic and atmospheric research activities, including monitoring and prediction of long-term climate change, efforts to understand and forecast severe weather events, and studies of coastal and marine processes. The National Sea Grant College Program, the National Undersea Research Program, the Climate and Global Change Program and the National Climate Program are funded within OAR.

The Administration's budget request for NOAA's OAR programs includes $86,914,000 for the Climate and Global Change Program, an increase of $69 million over the FY 1990 funding level. This program is NOAA's contribution to the U.S. Global Change Research Program. Goals of the program are: (1) to improve our understanding of ocean and atmospheric processes which affect global climate; (2) to provide reliable predictions of global climate change over periods of time ranging from seasons to a decade or more; and (3) to establish a national information service based on reliable assessments and quantitative predictions that can serve both Government and non-government sectors. The budget request for OAR proposes a funding reduction for the regional climate centers developed under the National Climate Program Act and for acid rain research activities. The Administration again has proposed termination of the National Undersea Research Program, but has supported a refocused National Sea Grant Program. The Committee strongly supports the continuation of current services for those OAR programs proposed for reduction in the Administration's budget request. In addition, the Committee endorses the Administration's proposed enhancements for OAR activities. Finally, the Committee recognizes that the Stormscale Operational and Research Meteorology (STORM) program offers significant potential for understanding severe weather dynamics and reducing the losses of life and property resulting from their effects, and supports additional funding for these research activities.

NATIONAL ENVIRONMENTAL SATELLITE, DATA AND INFORMATION SERVICE

NESDIS manages the Nation's three operational civilian Earth-observing satellite systems and the data these systems collect. Two of these systems have a primary mission of supporting weather forecasting—the polar-orbiting satellite system which obtains global environmental data, and the geostationary satellite system (GOES) which provides continuous observations of the Earth's western hemisphere. The third is the land remote-sensing system (Landsat) which provides global information on characteristics of the Earth's surface.

For NESDIS programs, the Administration's budget request includes an increase of $15,370,000 over the baseline estimate for FY 1991 to continue procurement and operation of NOAA's weather and environmental satellite systems. In the request, NOAA's environmental data management activities are maintained at current levels. The Committee is concerned that cost estimates for procurement of the next generation of geostationary satellites, GOES I through M, may not reflect recent problems with that contract. The geostationary statellites are essential for hurricane prediction and weather maps, and timely launches are important to ensure the continuity of GOES coverage.

The first satellite of the new series, GOES I, incorporates new designs for both spacecraft and instruments. It presently is scheduled for launch in February 1992, a delay of over two years from the original schedule. Normally, two GOES spacecraft provide complete and continuous observations of the western hemisphere. However,

only one GOES spacecraft is operating currently, requiring NOAA to keep changing its orbital position to meet the different seasonal forecasting requirements. In addition, this spacecraft is nearing the end of its design life, and the risk of no GOES coverage is increasing.

The GOES launch delay previously discussed has resulted primarily from problems in development of the advanced instruments that will fly on the new GOES series. The ability of the contractor to meet the current schedule is still uncertain. In addition, the procurement costs of the new GOES series have increased tremendously from original estimates. When the contract was signed in 1985, the total cost of the program was estimated at approximately $550 million (not including launch costs). However, in the FY 1991 budget request, the program estimate grew to almost $750 million, and the Administration's recent testimony to the Committee indicated that the final cost will be substantially higher. The Committee intends to monitor NOAA's progress with the GOES I–M procurement, as well as its efforts to prepare for the possibility of a gap in GOES coverage.

NOAA has informed the Committee of its decision to delay the launch of its next polar orbiting satellite, NOAA D, from its June 1990 scheduled date. Data from the polar orbiting system will play an increasingly important role in the event of a gap in GOES coverage, and the Committee expects NOAA's contingency plan for such a gap to include a polar orbiting satellite launch schedule that ensures adequate coverage by that system.

Although funding is requested for completing the development and launch of Landsat 6, which will be operated by a private contractor, no funding has been requested for a follow-on spacecraft. The Committee is concerned about maintaining continuity of land remote-sensing from space, but will await the findings of the President's Space Council on this issue before pursuing specific actions. The budget request also does not provide funding to operate the existing Landsat 4 and 5 satellites through FY 1991, based on the assumption that these satellites would cease operating in 1990. However, the satellites are still functioning at the present time, and the Committee supports authorization for the NOAA portion of funding required to operate the spacecraft through FY 1991 to ensure the availability of the valuable data which they provide.

In addition, the Committee has examined the issue of transferring responsibility for archiving of land remote-sensing data from DOC to DOI. In the past, DOC had arranged for DOI to archive the Landsat data collected since 1972 at the Earth Resources Observation Systems (EROS) Data Center in Sioux Falls, SD. This Center also maintains archives of other earth science data, including aerial photography and digital cartographic data, that complement land remote-sensing data from the Landsat system. The Committee concluded that a transfer of authority to the Secretary of the Interior for the archiving of land remote-sensed data would be appropriate to maintain within DOI an integrated collection of observations of the Earth's land surface.

Another issue considered during the authorization process was funding to support the ground processing segment of the Search and Rescue Satellite Aided Tracking Program (SARSAT). NOAA is

the lead U.S. agency for the international COSPAS/SARSAT program in which instruments flown on NOAA and Soviet satellites receive signals from ships and aircraft in distress and identify their location. Over 300,000 aircraft transmitters and 6,000 beacons in the U.S. recreational and fishing fleet are served by this program. In FY 1990, Congress appropriated funds for the Coast Guard to procure additional ground equipment to improve the timeliness of emergency signal reception in remote areas. For FY 1991, NOAA requires funds to operate and maintain these new ground stations.

Finally, NOAA's environmental data management programs were addressed. The Committee is particularly concerned about the potential losses of environmental data due to several causes, including storage media deterioration, inadequate storage facilities, and insufficient data management procedures. The importance of these environmental data to the achievement of specific program objectives for such efforts as the U.S. Global Change Research Program is now being recognized, and funding for data management activities has been incorporated into funding authorizations for that program. However, the environmental data needs of the larger universe of users, for both research and non-research applications, are not being addressed adequately.

NATIONAL OCEAN SERVICE

NOS programs are focused in three areas: (1) mapping, charting and geodesy; (2) marine observations and assessment; and (3) ocean and coastal management. These programs promote the rational use of U.S. ocean and coastal areas.

For NOS, most of the mapping, charting, observation, and assessment programs are maintained at current levels or decreased slightly in the Administration's budget request. The major focus is on the recently established Coastal Ocean Science Program, which is proposed for an increase of $11 million. The goal of the program is to apply NOAA's observation, research, assessment, and modeling capabilities to key coastal ocean problems and, simultaneously, use the agency's information management and delivery systems to assure that program findings are accessible and communicated to decisionmakers. In fiscal year 1991, the program will include research on eutrophication of coastal waters, the loss of estuarine and coastal habitats, the effects of natural variability, and cumulative degradation of the coastal environment by toxic contaminants.

In this bill, the Committee addresses two additional areas of concern related to NOS activities. The first is the need for increased emphasis on marine monitoring. As a result of increasing concern about damage to marine habitats from oil spills and manmade contamination, protection and restoration of the marine environment have become a focus of activity at the Federal, state, and local government levels. Recognizing this interest, the Marine Board of the National Research Council (NRC) appointed a committee to assess marine environmental monitoring and to determine how to improve the usefulness of monitoring information. Based on a series of case studies, this committee evaluated major policy and technical limitations of, and opportunities for, marine environmental monitoring. The NRC committee's final report, "Managing Trou-

bled Waters: The Role of Marine Environmental Monitoring" (March 1990), calls for strengthening the role of monitoring in marine environmental management, conducting comprehensive monitoring of regional and national status and trends, improving monitoring program design, and making the information gathered more useful.

Under existing authority in title II of the Marine Protection, Research, and Sanctuaries Act of 1972 (MPRSA) and in the National Ocean Pollution Planning Act, NOS conducts comprehensive national monitoring on the long-term effects of human activities on the marine environment. A critical component in this effort is the National Status and Trends Program, which collects pollutant information at 180 marine sites around the Nation. This bill authorizes NOAA to build upon this capability to establish a comprehensive national program for environmental monitoring of marine and coastal waters. The program would consist of a nationwide monitoring network, intensive regional monitoring programs, and a national monitoring center.

The second area of concern relates to the National Marine Sanctuary Program. Title III of the MPRSA authorizes the Secretary to designate appropriate areas of ocean, coastal, and Great Lakes waters as National Marine Sanctuaries to preserve or restore areas of nationally significant conservation, recreational, ecological, historic, scientific, educational or aesthetic value. The intent of the legislation is to allow multiple uses of the sanctuaries, where possible, while recognizing that the central concept of the program is resource protection. To date, eight National Marine Sanctuaries have been designated.

A review of the potential designation of the Florida Keys as a sanctuary site was initiated in response to the 1988 amendments to title III of the MPRSA. The initial results of NOAA's site studies have supported designation of the Florida Keys as a sanctuary. On March 7, 1990, Senator Graham introduced S. 2247, a bill to establish the Florida Keys National Marine Sanctuary. The legislation was introduced in response to three successive freighter groundings in 1989 which destroyed over 5,000 square meters of reef in the Keys. Since 1980, there have been 196 reported groundings of small and mid-size vessels which significantly damaged Florida reefs. This authorization substantially incorporates the provisions of S. 2247 to provide the designation of certain portions of the Florida Keys as a marine sanctuary.

NATIONAL MARINE FISHERIES SERVICE

NMFS provides the scientific and technical expertise needed to manage the Nation's living marine resources. NMFS carries out fisheries research, collects fishery-related information, enforces federal marine research regulations, conducts programs to ensure the quality and safety of seafood, and encourages rational fishery development.

The Administration's FY 1991 budget request for NMFS programs authorized by this bill is approximately 35 percent lower than fiscal year 1990 appropriation levels. Reductions proposed by the Administration include elimination of Federal support for

Alaska and Columbia River salmon hatcheries, and sharp cuts in funding for industry support and for seafood safety and product quality research. At the same time, however, the Administration's request supports level funding for many programs for which the Administration proposes reductions in previous budgets, including the Regional Fishery Management Councils, the Marine Fisheries Information Network (MARFIN), and high seas driftnet monitoring activities. Also, the Administration has proposed increases in some areas, such as fisheries enforcement, conservation engineering and monitoring of North Pacific fisheries. The Committee endorses funding for the fisheries program contained in the Administration's budget proposal, and anticipates continuation of services at least at current levels for those NMFS programs proposed for reduction in the Administration's budget request.

Finally, a number of areas has been identified for which additional funding may be required. One such area is enhancement of fisheries habitat research in the north-central Gulf of Mexico region. This area's fisheries are comprised primarily of estuarine-dependent species, and losses and degradation of fisheries habitats are a particular problem. Estimates indicate that 85 percent of present documented wetland loss for the United States is occurring in the north-central Gulf. Current NMFS fisheries habitat research efforts are not sufficient to address this regional problem, and establishment of a NMFS facility in the area would provide a focus for research in this area. Such a laboratory would be expected to augment and coordinate activities with related research programs in the region, particularly those of the U.S. Fish and Wildlife Service's National Wetlands Research Center, which is located in Louisiana.

PROGRAM SUPPORT

NOAA's program support activities include agency-wide program administration and services, facilities construction and maintenance, marine ship services, and aircraft services. Under its facilities construction and maintenance activities, NOAA is consolidating the 18 offices currently located throughout the Washington, DC area into the Metro Center Complex in Silver Spring, MD.

The Administration's budget request for NOAA's program support activities includes funds to continue this office consolidation; $4 million for a modest program to modernize and extend the service life of NOAA research vessels; and funding enhancements to equip and maintain NOAA's reconnaissance and research aircraft.

LEGISLATIVE HISTORY

Since the beginning of the 101st Congress, the full Committee and the National Ocean Policy Study have held a number of hearings on the NOAA programs authorized by this legislation. On April 11, 1989, a hearing was held to examine NOAA's role in the U.S. Global Change Program. The Committee held two days of oversight hearings on NOAA's fishery programs on May 17 and 18, 1989. On October 26, 1989, the Committee held an oversight hearing on NWS and other weather-related NOAA programs. On June 12 and 14, 1990, the Committee held two hearings, one on NOAA's

environmental satellites and the other on ocean and coastal programs. In addition to reviewing the Administration's budget priorities for NOAA, the hearings focused on specific issues, including continuing data management and satellite procurement problems, development of a coastal environment monitoring program, and establishment of a National Marine Sanctuary in the Florida Keys.

S. 2788 was introduced by Senator Kerry on June 26, 1990, and was referred to the Committee. The bill is cosponsored by Senators Hollings and Graham. S. 2788 incorporates provisions of a number of bills before the Committee, including S. 2247, the "Florida Keys National Marine Sanctuary and Protection Act," which was introduced by Senator Graham on March 7, 1990; S. 1307, "Relating to Land Remote-Sensing Data," which was introduced by Senator Pressler on July 12, 1989; and S. 1385, the "Tropical Cyclone Reconnaissance, Surveillance, and Research Program," which was introduced by Senator Lott on July 24, 1989.

In open executive session on June 27, 1990, the Committee considered S. 2788. Two amendments were offered. The first amendment, which was offered by Senator Breaux, would authorize appropriations of $10,400,000 in fiscal year 1991 for construction on a NMFS laboratory to support coastal habitat research efforts in the Gulf of Mexico region. The second amendment, which was offered by Senator Pressler and cosponsored by Senator Danforth, would strengthen the certification requirements that the Secretary must meet prior to any closing, consolidation, automation, or relocation of a weather office. Both amendments were approved by the Committee. The Committee, without objection, ordered S. 2788 reported, as amended.

Summary of Major Provisions

The following chart summarizes the FY 1990 appropriations available, the Administration's request for FY 1991, and the authorization levels proposed in the bill:

Authorization of Appropriations

[In thousands of dollars]

	Fiscal year		
	1990	1991 request	1991 authorization
Program support	$134,322	$149,306	$153,188
National Ocean Service	89,781	98,352	126,407
National Marine Fisheries Service	78,884	51,182	89,988
National Weather Service	388,516	470,023	478,298
National Environmental Satellite, Data Information Service	264,534	280,430	324,084
Oceanic and atmospheric research	172,494	199,501	239,743
Total	1,128,531	1,248,794	1,411,708

The authorization levels in the bill are based on the Administration's requested budget plus funding for NOAA programs that the Committee has supported in past years. In addition, an increase of $26,851,000 above the Administration's request is provided for GOES satellite cost adjustments, $15 million is provided for coastal

environmental monitoring, $10,400,000 is authorized for a NMFS laboratory to support coastal habitat research efforts in the Gulf of Mexico region, and $750,000 is provided for the Florida Keys National Marine Sanctuary. The total amount authorized by the bill is consistent with the Committee Views and Estimates provided to the Senate Budget Committee in April.

In addition to the above authorizations, the bill calls for the Secretaries of Commerce and Defense to establish a joint five-year reconnaissance program. The legislation transfers authority for the archiving of land remote-sensed data from DOC to DOI. The bill also authorizes funding to support the ground processing segment of NOAA's SARSAT program.

With respect to ocean programs, the bill establishes a comprehensive national program for environmental monitoring of marine and coastal waters. This program would consist of a nationwide monitoring network, intensive regional monitoring programs, and a national monitoring center.

Finally, the bill incorporates most of the provisions of S. 2247, the "Florida Keys National Marine Sanctuary and Protection Act of 1990," into title V of the bill. Title V of the bill (1) establishes a National Marine Sanctuary in the Florida Keys to protect and manage the reef ecosystem, and delineates a boundary for the sanctuary extending from Biscayne National Park in the north Keys area to the Fort Jefferson National Monument in the south, and seaward to the 600 foot isobath (depth line); (2) requires, the Secretary to create and implement a comprehensive management plan to protect the region's marine environment; and (3) prohibits certain commercial vessel traffic, mining, mineral extraction and oil development within the sanctuary.

ESTIMATED COSTS

In accordance with paragraph 11(a) of rule XXVI of the Standing Rules of the Senate and section 403 of the Congressional Budget Act of 1974, the Committee provides the following cost estimate, prepared by the Congressional Budget Office.

U.S. CONGRESS,
CONGRESSIONAL BUDGET OFFICE,
Washington, DC, July 17, 1990.

Hon. ERNEST F. HOLLINGS,
Chairman, Committee on Commerce, Science, and Transportation
U.S. Senate, Washington, DC.

DEAR MR. CHAIRMAN: The Congressional Budget Office has prepared the attached cost estimate for S. 2788, the National Oceanic and Atmospheric Administration Authorization Act of 1990.

If you wish further details on this estimate, we will be pleased to provide them.

Sincerely,

ROBERT D. REISCHAUER,
Director.

CONGRESSIONAL BUDGET OFFICE COST ESTIMATE

1. Bill number: S. 2788.

2. Bill title: National Oceanic and Atmospheric Administration Authorization Act of 1990.

3. Bill status: As ordered reported by the Senate Committee on Commerce, Science, and Transportation, June 27, 1990.

4. Bill purpose: S. 2788 would authorize fiscal year 1991 appropriations to the National Oceanic and Atmospheric Administration (NOAA). The programs authorized would include the National Weather Service, the National Ocean Service, the National Environmental Satellite, Data and Information Service (NESDIS), the Office of Oceanic and Atmospheric Research, the National Marine Fisheries Service (NMFS), and NOAA's program support activities. The bill also would authorize appropriations for NOAA to establish the Florida Keys National Marine Sanctuary. In addition, it would require NOAA and the Department of Defense (DOD) to establish a joint five-year hurricane reconnaissance program and would transfer the responsibility for storing Landsat data from NOAA to the United States Geological Survey (USGS).

5. Estimated cost to the Federal Government:

[By fiscal year, in millions of dollars]

	1991	1992	1993	1994	1995
Authorization level:					
National Weather Service	478				
National Ocean Service	126				
NESDIS	324				
Oceanic and atmospheric research	240				
NMFS	90				
Other	154				
Total	1,412				
Estimated outlays	960	353	71	28	

The costs of this bill would in budget function 300. The fiscal year 1990 appropriation for these programs was $1.1 billion, and the President has requested $1.2 billion for fiscal year 1991.

Basis of estimate: For this estimate, we have assumed that the full amounts authorized would be appropriated for each fiscal year. The estimated outlays are based on historical spending patterns.

The above table does not include any estimated costs for the joint NOAA/DOD hurricane reconnaissance program or for the transfer of the Landsat data archive to the USGS. For the hurricane reconnaissance program the bill would require the Air Force to continue its existing program, unless it agrees to transfer the program to another agency, such as NOAA or the Coast Guard. Based on information provided by the Air Force and NOAA, we do not expect that costs to the federal government would change significantly if the program were moved to another agency. The Air Force has requested $22 million for this activity in fiscal year 1991.

We also expect that the data storage requirements in the bill would not result in any new costs to the government. This provision would codify an agreement between the Departments of Commerce and the Interior to transfer funding and responsibility for this archive to the USGS. The annual costs of this activity are roughly $2 million.

6. Estimated cost to State and local governments: None.

7. Estimate comparison: None.

8. Previous CBO estimate: CBO has previously prepared a cost estimate for H.R. 4115, the Ocean and Coastal Program Authorization Act of 1990, as ordered reported by the House Committee on Merchant Marine and Fisheries on April 18, 1990. H.R. 4115 would authorize $637 million in fiscal year 1991 appropriations to NOAA for the National Ocean Service, the Office of Oceanic and Atmospheric Research, and for program support; the comparable authorizations in this bill total $519 million.

Title V of this bill contains the Florida Keys National Marine Sanctuary and Protection Act and is nearly identical to H.R. 3719, the Florida Keys Protection Act. On July 9, 1990, CBO prepared an estimate for H.R. 3719, as ordered reported by the House Committee on Merchant Marine and Fisheries on June 27, 1990. H.R. 3719 would authorize appropriations of $750,000 annually for fiscal year 1991 and 1992, while Title V of this bill would authorize that amount for 1991.

9. Estimate prepared by: Michael Sieverts and Barbara Hollinshead.

10. Estimate approved by: James L. Blum, Assistant Director for Budget Analysis.

Regulatory Impact Statement

In accordance with paragraph 11(b) of rule XXVI of the Standing Rules of the Senate, the Committee provides the following evaluation of the regulatory impact of the legislation.

Titles I through IV of S. 2788, as reported, include authorization of appropriations to continue existing programs. In addition, these titles provide for tranfer of responsibility for the archiving of land remote-sensing data from the Secretary to the Secretary of the Interior, and for establishment of a national program to monitor marine and coastal waters of the United States. These provisions are not anticipated to have any effect on the number or type of individuals and businesses regulated, the economic impact of such regulations, the personal privacy of affected individuals, or the paperwork required from such individuals and businesses.

Title I includes additional reporting requirements for DOC and DOD associated with development of the management plans for the hurricane reconnaissance program. This title also modifies requirements for the certification by the Secretary that changes in NWS field office operations will not result in a degradation of weather services provided to the affected area. The legislation requires the certification to be based upon an independent review of these actions by NAS. Some additional paperwork by DOC and NAS may result from the changes in review and reporting requirements included in the reported bill.

Title V of S. 2788 designates the Florida Keys National Marine Sanctuary and establishes guidelines for the development of a management plan and implementing regulations for the protection of sanctuary resources. The management plan and regulations would be developed in accordance with the procedures specified in section 304 of the MPRSA, and include a determination of uses compatible

with the purposes for which the sanctuary is established. These procedures provide for extensive public participation, the opportunity for public comment, and Congressional review of the management plan and regulations to ensure consistency with the purposes of the MPRSA. These procedures also would allow the appropriate Regional Fishery Management Council to prepared draft fishery management regulations to implement any changes required by the designation for fisheries conducted in the exclusive economic zone (EEZ) within the sanctuary. In addition, this title provides the State of Florida with an opportunity to determine that the sanctuary boundaries are not acceptable for any area located within the state's territorial waters. The title prohibits operation of tank vessesl (as defined in section 2101 of title 46, Unted States Code) or vessels greater than 50 meters in length in the "Area to Be Avoided" described in the Federal Register Notice of May 9, 1990 (55 Fed. Reg. 19418–19419). The title enables DOC and the U.S. Coast Guard jointly to modify this prohibition in any manner consistent with the prevention of vessel groundings within the sanctuary. Further, this title prohibits mining, mineral extraction, or hydrocarbon exploration, development, or production, within the sanctuary. The extent of the regulatory impact of this title will be determined by the final management plan and implementing regulations developed in accordance with the provisions of this legislation and title III of the MPRSA. In addition to the Congressional reporting requirements provided in section 304 of the MPRSA, title V requires the Secretary to submit a report on funding requirements for the sanctuary through FY 1999.

Section-by-Section Analysis

SECTION 1.—SHORT TITLE

This section cites the short title of the bill as the "National Oceanic and Atmospheric Administration Authorization Act of 1990."

SECTION 2.—DEFINITIONS

This section defines several terms used in the bill.

TITLE I—NOAA ATMOSPHERIC AND SATELLITE PROGRAMS

Subtitle A—Authorization of Appropriations

SECTION 101.—NATIONAL WEATHER SERVICE OPERATIONS AND RESEARCH

Section 101(a) authorizes $300,831,000 for fiscal year 1991 for the operations and research duties of NWS. The funds authorized support public warnings and forecast activities of a meteorological, hydrological, and oceanographic character, as well as the applied research underlying these activities. The FY 1991 sum includes funding for activities requested by the Administration, and for restorations of proposed reductions for the following: NWS management, agricultural and fruit frost warnings, fire weather services, flood warning and data buoy systems, and equipment maintenance. The Committee views these activities as fundamental elements of the Nation's public warning and forecast system that properly are

funded through appropriated funds rather than through assessment of user fees. The Committee is also concerned about the effect that efforts to streamline management will have on the integrity of the national weather service network.

Section 101(b) amends title IV of Public Law 100-685, which establishes certification procedures associated with the closing, consolidation, automation, or relocation of WSOs and WSFOs. S. 2788 would change the certification requirement in two respects. First, it would require that the certification be based upon an independent review by NAS. Second, it would require that at least one year elapse following the date of the certification before the change to the office could take effect. The revised procedures would require NAS to conduct a review of the effect of proposed closings on weather services for affected areas, identify areas that would be adversely affected by the loss of manned weather stations, identify areas which would not receive complete coverage by the NEXRAD network, and provide a statement of the evidence considered in concluding that no degradation of weather service will result from proposed closings. The procedures then require the Secretary to certify to Congress that proposed closings will not result in a degradation of weather services for affected areas. No closings may occur until at least one year after such certification.

SECTION 102.—PUBLIC WARNING AND FORECAST SYSTEMS

Section 102(a) authorizes $177,467,000 in fiscal year 1991 for the development, acquisition, and implementation of modern NWS public warning and forecast technologies. The fiscal year 1991 authorization supports funding for acquisition of the principal components of NWS modernization at levels consistent with the requirements set forth in the Administration's budget submission for NOAA. Included in this authorization level are $114,343,000 for NEXRAD, $14,058,000 for ASOS, $41,803,000 for AWIPS/NOAAPORT, and $7,263,000 for the Class VII computer.

Section 102(b) allows the Secretary to include, in contracts for the procurement of information processing and telecommunications services in connection with the AWIPS program, contingent liability provisions for termination of the contract by the Federal Government prior to the program's completion. Such contracts would limit contingent liability payments by the Federal Government to amounts provided in advance in appropriations acts.

SECTION 103.—CLIMATE AND AIR QUALITY RESEARCH

Section 103(a) authorizes $123,299,000 for fiscal year 1991 for NOAA's climate and air quality research activities. These activities are carried out by OAR, and include studies of tropical ocean and global atmosphere interactions, trace gases which contribute to the greenhouse effect, and global climate change. The authorization level would meet the Administration's request for this subactivity, restore funding for the regional climate centers under the National Climate Program, and support continuation of acid rain research efforts with a particular focus on rural areas.

Section 103(b) designates $86,914,000 of the fiscal year 1991 authorization for continued development of NOAA's Climate and

Global Change Program. NOAA activities under this program are coordinated with those of other participants in the U.S. Global Change Research Program to ensure that an integrated strategy is developed for understanding our changing planet. In recognition of the increased importance of NOAA's environmental prediction and information management activities to the national research effort, this legislation authorizes the funding required by NOAA to establish a new national information service—based on reliable assessments and quantitative predictions of changing global climate—to serve both Government and non-government sectors around the world.

SECTION 104.—ATMOSPHERIC RESEARCH

Section 104(a) authorizes $48,395,000 for fiscal year 1991 for the atmospheric research programs of OAR. These programs include research to develop improved predictive capabilities for atmospheric processes, as well as solar terrestrial services and research. The fiscal year 1991 authorization includes the funding requested by the Administration, restoration of reductions reflected in the Administration's budget from the fiscal year 1990 funding levels, and modest enhancements in severe storm research programs.

Under section 104(b), $2,500,000 of the total authorized in subsection (a) would be available for the STORM program.

SECTION 105.—SATELLITE OBSERVING SYSTEMS

Section 105 authorizes activities related to NOAA satellite observing systems within NESDIS. Section 105(a) proposes an authorization of $260,576,000 for fiscal year 1991 that would include spacecraft procurement, launch, and associated ground-station system changes involving polar-orbiting and geostationary weather satellites and land remote-sensing satellites. The operation of NOAA satellite systems is included within this subactivity. Pursuant to section 105(c), the funds authorized under section 105(a) would be in addition to the funds authorized for Landsat commercialization under the Land Remote-Sensing Commercialization Act of 1984.

The fiscal year 1991 authorization provided in this section meets the Administration's request for spacecraft procurement, launch, and operations. In addition, the bill provides for increases over the requested levels for the procurement of the next series of geostationary spacecraft (GOES I through M), operation of Landsats 4 and 5, and operation of NOAA's portion of the SARSAT program.

The Administration's budget request proposed a reduction of $26,851,000 from fiscal year 1990 requirements for the GOES program. This legislation would authorize level-funding for GOES procurement activities in fiscal year 1991. The GOES program has experienced both cost and schedule problems, and recent Administration testimony indicated that a cost adjustment, and probably a launch schedule adjustment, to the procurement program proposed in the fiscal year 1991 budget request may be necessary. The Committee remains concerned about NOAA's efforts to maintain continuity of service from the GOES system, and this legislation maintains the current funding level for the GOES procurement in order

to prevent the disruption that could occur from insufficient funding support.

This legislation authorizes restoration of funding to continue operating Landsats 4 and 5, which have lasted beyond their anticipated lifetimes. The Landsat system has maintained almost two decades of continuous land remote-sensing data that provide invaluable information about the Earth's surface. Although the Administration has indicated that it intends to provide funding to support these operations if the spacecraft continue to function, no specific sources of funding have been identified. The satellites appear capable of continuing to provide useful service, and this legislation authorizes $9,500,000 of the funds specified in section 105(a) for NOAA to continue their operations.

Section 105(b) authorizes $2,300,000 of the funding provided in subsection (a) for operation and maintenance of the ground system component of the SARSAT program. This legislation authorizes fiscal year 1991 appropriations for NOAA to meet U.S. obligations for the international COSPAS/SARSAT program.

Section 105(c) specifies that funds authorized under subsection (a) of this section are in addition to funds authorized under the Land Remote-Sensing Commercialization Act of 1984 to carry out satellite observing system activities. Section 171 of subtitle C of this legislation includes specific authorizations related to Landsat commercialization.

SECTION 106.—DATA AND INFORMATION SYSTEMS

Section 106 authorizes $27,174,000 for fiscal year 1991 for the environmental data and information services of NESDIS. These NESDIS activities support development and management of national environmental data bases and three NOAA data centers: the National Climatic Data Center, the National Oceanographic Data Center, and the National Geophysical Data Center. The funding levels authorized meet the Administration's request for this subactivity and provide an additional $5 million to improve NOAA's data management infrastructure. The funds authorized by this legislation would enable NOAA to initiate improvements to its environmental data center activities to ensure the long-term preservation of this data and to improve the utility of such data to users.

Subtitle B—Hurricane Reconnaissance Program

SECTION 130.—FINDINGS

Section 130 outlines the importance of research efforts, particularly aircraft hurricane reconnaissance, in tracking and predicting hurricanes and severe storms. Manned reconnaissance flights are critical to the accurate tracking of tropical cyclones, and considerable loss of life and property have been prevented by the early warnings provided by both NOAA and U.S. Air Force reconnaissance activities.

SECTION 131.—ESTABLISHMENT OF PROGRAM

Section 131 requires the Secretaries of Commerce and Defense to establish a five-year joint weather reconnaissance program. This

program would have both operational and research components to improve forecast and warning activities.

SECTION 132.—RESPONSIBILITIES

Section 132 clarifies weather reconnaissance responsibilities of DOD and DOC. Under subsection (a), DOD is required to maintain, fly, and provide funding for the tropical cyclone reconnaissance aircraft. These Air Force WC–130 flights currently are flown from Keesler Air Force Base in Gulfport, MS, and collect critical information for accurate advance warnings of hurricanes and severe storms in coastal areas. This section requires the flights to continue and prohibits transfer of the planes from DOD unless all involved parties agree.

Section 132(b) makes DOC responsible for funding and conducting data gathering and research through remote sensing, ground sensing, and research aircraft. These activities have traditionally been carried out by NOAA in support of its mission to provide timely weather forecasts and warnings. Such activities include reconnasisance flights by two WP–3D aircraft and satellite observations to provide data on storm intensity and direction. Data from these sources support two NWS Hurricane Forecast Centers, which provide forecast guidance on the track and intensity of hurricanes based on numerical models.

SECTION 133.—MANAGEMENT PLANS

Section 133 requires the Secretaries of Commerce and Defense to develop a joint five-year management plan for implementing the weather reconnaissance program. Subsection (a) requires submission of a joint report to Congress within 120 days of enactment of this legislation describing the organization, implementation plans, and funding requirements for this program.

Section 133(b) requires the Secretaries of Commerce and Defense to develop jointly a management plan for a long-term program that would follow the five-year program established under section 131 of the bill, and provide adequate protection for citizens in the coastal areas of the United States. This plan is to be submitted to Congress within four years of enactment of this legislation.

Under section 133(c), the management plans and programs required by this title must provide at least the same degree and quality of hurricane tracking and protection as currently exists. In addition, section 133(c) prohibits any reduction in the level of service (including the quantity and quality of aircraft, flying hours, crews, and support personnel) or the area served by both the existing principal and back-up tropical cyclone reconnaissance and tracking systems.

Subtitle C—Land Remote-Sensing Commercialization

SECTION 170.—TRANSFER OF DATA ARCHIVING RESPONSIBILITIES

Section 170 amends the Land Remote-Sensing Commercialization Act of 1984 to transfer responsibility for archiving of land remote-sensed data from DOC to DOI.

Subsection (a) of this section includes several findings concerning the archiving of land remote-sensing data. This subsection emphasizes the importance of Landsat data for monitoring and assessing global land resources and global change, and encourages facilitation of the use of archived data for research purposes.

Section 170(b) transfers authority for the archiving of land remote-sensed data from DOC to DOI.

Section 170(c) ensures that archiving activities undertaken by DOI are consistent with the terms and conditions of any contract or agreement entered into under title II, III, or V, and with any license issued under title IV, of the Land Remote-Sensing Commercialization Act of 1984.

SECTION 171.—AUTHORIZATION

Section 171 authorizes $36,334,000 to complete the funding required for development and launch of Landsat 6 in mid-1991. The spacecraft will be operated by a private contractor and will continue U.S. involvement in land remote-sensing from space until a decision on additional spacecraft is reached.

TITLE II—NOAA OCEAN AND COASTAL PROGRAMS

Subtitle A—Authorization of Appropriations

SECTION 201.—NATIONAL OCEAN SERVICE

Section 201 authorizes $126,407,000 for the ocean mapping, observation, and assessment programs of NOS. Subsection (a) of this section provides $50,347,000 for fiscal year 1991 for the mapping, charting and geodesy program. Mapping and charting activities provide accurate and timely marine, coastal and aeronautical data in various map and chart formats. The geodesy program provides accurate geographic positions, elevations and gravity values for national defense and space activities, public works, and land information management.

Section 201(b) authorizes $76,060,000 for fiscal year 1991 for observation and assessment activities, which provide timely and accurate marine observations and predictions for safe and efficient operations in the oceans, coastal areas, estuaries and Great Lakes. Within this amount, the Committee supports the Administration's request for an increase of $11 million for the recently established Coastal Ocean Science Program. The goal of the program is to apply NOAA's observation, research, assessment, and modeling capabilities to key coastal ocean problems and, simultaneously, use the agency's information management and delivery systems to assure that program findings are accessible and communicated to decisionmakers. In fiscal year 1991, the program will conduct research on eutrophication of coastal waters, the loss of estuarine and coastal habitats, the effects of natural variability, and cumulative degradation of the coastal environment by toxic contaminants. Section 201(b) also authorizes $2 million to upgrade the NOAA laboratory in Woods Hole, MA.

Finally, the authorization in this section 201(b) includes $4,500,000 for fiscal year 1991 activities carried out under the Na-

tional Ocean Pollution Planning Act of 1978, and $17 million for fiscal year 1991 activities carried out under title II of the MPRSA.

SECTION 202.—OCEAN AND GREAT LAKES RESEARCH

Section 202 authorizes $68,049,000 for ocean and Great Lakes research programs. These funds will support NOAA's mission to improve the prediction and assessment of ocean, coastal, and Great Lakes processes and resources. The Committee includes authorization of funding for activities associated with marine prediction research, the National Sea Grant College Program, and the National Undersea Research Program that were proposed for reduction or elimination in the Administration's fiscal year 1991 budget request.

Subtitle B—Coastal Monitoring

SECTION 251.—SHORT TITLE

Section 251 provides the short title of this subtitle, the "Marine and Coastal Monitoring Act of 1990."

SECTION 252.—PURPOSE

Section 252 states that the purpose of this subtitle is to establish under the NOAA Administrator (Administrator) a comprehensive national program for the monitoring of marine and coastal waters of the United States. The program would provide data and information on the status and trends of contamination in marine and coastal waters.

SECTION 253.—DEFINITIONS

Section 253 defines the terms "Administrator" and "marine and coastal."

SECTION 254.—COMPREHENSIVE PROGRAM

Section 254 establishes a comprehensive national monitoring program consisting of: (1) a national monitoring network; (2) intensive regional monitoring programs; and (3) a national monitoring center.

SECTION 255.—NATIONAL MONITORING NETWORK

Section 255(a) establishes a nationwide monitoring network, which will include the activities and functions of the National Status and Trends Program. This network will evaluate the status and trends of toxic substances, biological oxygen demand, algal blooms, and overall ecological conditions of marine and coastal waters.

Under section 255(b), the Administrator will create an interagency committee to direct priorities for the nationwide program.

SECTION 256.—REGIONAL MONITORING PROGRAMS

Section 256(a) requires the Administrator to designate estuarine and coastal areas of particular concern as regions in which the waters would be intensively monitored. These areas would include each of the estuarine areas listed in section 320(a)(2)(B) of the Fed-

eral Water Pollution Control Act and any additional areas that the Administrator may designate.

Under section 256(b), the Administrator will establish monitoring coordination groups to design and direct a long-term monitoring program for each region.

Under section 256(c), the regional monitoring programs will incorporate fully the activities of the nationwide monitoring network.

Section 256(d) requires that each regional monitoring group develop an annual operating plan for the monitoring activities in its region. The plan would identify: (1) proposed monitoring activities; (2) the agency responsible for each activity; (3) the estimated cost of each activity; and (4) sources of available funding.

Under section 256(e), the Administrator is required to issue regulations necessary for implementing this section.

SECTION 257.—NATIONAL COASTAL MONITORING CENTER

Section 257(a) mandates that the Administrator establish a National Coastal Monitoring Center (Center) to develop scientific methods and procedures for carrying out monitoring activities in marine and coastal waters and disseminating data and reports.

Section 257(b) requires the Center to: (1) develop a coordinated national data and information management system; (2) develop a coordinated national quality assurance and quality control program; (3) support research studies on improving monitoring methods and procedures; (4) conduct studies to standardize monitoring techniques and analysis; (5) organize workshops and meetings at the Federal, State, and regional levels; and (6) develop reports that assess various aspects of the status and trends of the environmental quality of marine and coastal waters of the United States, synthesize monitoring results, and evaluate the current conditions in these areas.

TITLE III—AUTHORIZATION OF NOAA FISHERY PROGRAMS

SECTION 301.—MARINE FISHERIES PROGRAMS

Section 301 authorizes appropriations for a number of NOAA's marine fisheries programs for fiscal year 1991. Activities funded under this section include enhancement of salmon resources, implementation of fishery agreements, seafood safety and product quality research, and habitat conservation efforts.

Section 301(a) authorizes $43,152,000 for fisheries information collection and analysis, $25,880,000 for fisheries conservation and management operations, and $10,556,000 for fishery-related state and industry assistance programs.

Section 301(b) authorizes $10,400,000 for construction of a NMFS laboratory adjacent to the National Wetlands Research Center of the Fish and Wildlife Service. This laboratory would be used to support coastal habitat research efforts of the National Marine Fisheries laboratory located in Beaufort, NC.

TITLE IV—MISCELLANEOUS PROVISIONS

SECTION 401.—PROGRAM SUPPORT

Section 401 authorizes $153,200,000 for program support. Section 401(a) includes $67,475,000 for administration and services. These funds provide for overall NOAA management, including administration of the NOAA Corps, administrative support centers, program support, automated systems, and retired pay for commissioned officers.

Section 401(b) authorizes $7,377,000 for facilities support. These funds provide for repairs and maintenance at NOAA-owned research and operational facilities, and for continuing consolidation of facilities in the Washington, DC area.

Section 401(c) authorizes $69,030,000 for marine services, which includes operation of the 23 research vessels in the NOAA fleet. Of the funds authorized for marine services, $2,900,000 would be provided to modernize and reactivate the *Albatross*, one of the vessels in the NOAA fleet. This subsection also requires the Secretary to make recommendations to Congress, by December 31, 1990, on the modernization of the NOAA fleet.

Section 401(d) authorizes $9,306,000 for aircraft services, including maintenance and operation of 14 NOAA aircraft located throughout the United States.

SECTION 402.—REQUIREMENT OF NOTICE OF REPROGRAMMING

Section 402 requires the Secretary to provide notice to the Senate Committee on Commerce, Science, and Transportation and to the House Committees on Merchant Marine and Fisheries and Science, Space, and Technology before reprogramming any appropriations authorized by this legislation.

TITLE V—FLORIDA KEYS MARINE SANCTUARY

SECTION 501.—SHORT TITLE

Section 501 states the short title of title V as the "Florida Keys National Marine Sanctuary and Protection Act."

SECTION 502.—FINDINGS

Section 502 lists eight findings regarding the unique nature of the Florida Keys marine environment, the area's national significance, the risk of damage to area habitats from a variety of onshore and offshore disturbances, and the need for coordinated and comprehensive protection of the entire reef ecosystem. The findings also point out that the marine environment of the Keys includes extensive living coral reefs, seagrass meadows, and mangrove forests. The Committee recognizes that these habitats are interrelated and interdependent. Many reef organisms are directly dependent on the health of other ecosystem components during part or all of their life cycles. The vitality of the reef itself requires nearly pristine water quality which may be affected by activities in other parts of the system. Therefore, the findings conclude that, in order to provide such comprehensive and coordinated management, action is necessary to create a system-wide Florida Keys National

Marine Sanctuary (Sanctuary), to prohibit certain destructive uses, and to develop a management plan and regulations to ensure that allowed uses are compatible with the resource protection goals and purposes of the Sanctuary.

SECTION 503.—POLICY AND PURPOSE

Section 503(a) broadly states the resource protection policy of this title.

Section 503(b) states that the purposes of the title are to protect the area's natural resources, educate the public, and manage human uses of the area in a manner compatible with the goals of the Sanctuary.

SECTION 504.—DEFINITIONS

Section 504 defines the following terms used in title V of the bill: "adverse effect", "comprehensive management plan", "Sanctuary", "sanctuary resource", and "Secretary".

SECTION 505.—SANCTUARY DESIGNATION

Section 505(a) establishes and names the Sanctuary, and requires Sanctuary administration to be in accordance with this legislation and the MPRSA.

Subsection (b) of this section sets the boundaries for the area to be included in the Sanctuary. The Sanctuary includes waters under both State and Federal jurisdiction.

Under section 505(c), the State of Florida has the authority to withdraw State areas from the Sanctuary within 180 days of the approval of MPRSA regulations, with prior notification to the Secretary. If such notification is provided, the Secretary is required to publish and transmit the modified boundaries to the Congress within 30 days of receiving the notification.

Section 505(d) enables the Secretary to extend administratively the boundaries set forth in the bill if such extension is shown to be necessary during the management planning process.

SECTION 506.—PROHIBITION OF CERTAIN USES

Section 506(a) prohibits commercial vessel traffic determined to be incompatible with the purposes for which the Sanctuary is established, in accordance with the development of the Sanctuary management plan. Under subsection (a)(2), the prohibition against commercial vessel traffic could be modified if the Secretary finds that such commercial vessel traffic would not endanger Sanctuary resources.

Section 506(b) prohibits mining, mineral extraction, and hydrocarbon exploration, development, or production within the boundaries of the Sanctuary.

Section 506(c) requires the Secretary to prohibit other uses which are determined to be incompatible with the purposes for which the Sanctuary is established. This determination would be made in accordance with the development of a comprehensive Sanctuary management plan and with regulations promulgated pursuant to section 507(a)(1) of this title.

SECTION 507.—COMPREHENSIVE MANAGEMENT PLAN

Section 507 requires the Secretary to develop and implement a comprehensive management plan for the Sanctuary. Section 507(a) addresses requirements for preparation of the plan, which include: (1) uses or classes of uses which are determined to be incompatible with the purposes of the Sanctuary; (2) a management strategy for compatible uses, including consideration of temporal and geographic zoning; (3) the identification of existing or potential sources of damage within or outside the Sanctuary; (4) strategies to prevent or mitigate this damage, with particular attention to the protection of water quality; (5) the identification of priorities for further research and the establishment of a long-term monitoring program; (6) an estimate of the funds necessary for implementing the plan; (7) the identification of any minor modifications needed to the Sanctuary boundary; (8) a mechanism to ensure coordination and cooperation among Sanctuary managers and managers of other lands and waters in the area; (9) a strategy to promote education of users of the Sanctuary, focusing on reef conservation and navigational safety; and (10) a procedure for incorporating the existing Looe Key and Key Largo Sanctuaries into the Sanctuary.

The intent of title III of MPRSA, reaffirmed repeatedly by the Committee, is to allow and encourage multiple compatible uses of the Sanctuary, where possible, while recognizing that the overriding purpose of the program is resource protection. The intent of the Committee is that any comprehensive management plan developed under the bill be consistent with this philosophy. The Committee recognizes that the economic well-being of the Florida Keys, the continued viability of a number of industries, and a substantial number of jobs depend on the health of the reef system and the wise use of its resources. The Committee's view is that a management plan developed according to the above philosophy should maximize the long term values of the reef system. Only destructive activities that threaten the vitality of the reef system should be prohibited. All other activities should be allowed and managed in a manner consistent with optimizing the long term value of the reef system. Due to the large size and nature of the Sanctuary, the Committee strongly recommends that NOAA consider the use of geographical and temporal zoning in developing the management plan. The application of such zoning as a management technique would enable NOAA to regulate certain activities in areas of special ecological sensitivity while allowing greater use in less critical areas. For example, the Committee believes that this approach should permit the continuation of activities such as commercial and recreational fishing in large areas of the Sanctuary.

It is also the intent of the Committee that man-made, artificial water bodies, such as dredged canals, not be a part of the Sanctuary. However, it is recognized that the water quality and living resources of the Sanctuary are affected by the uses and water quality of these water bodies. Therefore, overall protection and management plans for the Sanctuary must account for the impact of existing artificial water bodies on the Sanctuary's living resources. These plans should give special attention to the water quality of

existing artificial water bodies as it affects the Sanctuary's resources.

Merely defining the boundaries of the Sanctuary and regulating activities within those boundaries may be inadequate to protect sanctuary resources. This is particularly true with respect to activities affecting water quality. NOAA has recognized this and has begun addressing threats to sanctuary water quality through regulations and conditioning of permits under the existing authority of the MPRSA (16 USC 1434(c)). The Committee concurs with NOAA that the agency has existing authority to review and condition such permits Such authority may be particularly useful in addressing water quality threats to the Sanctuary.

Section 507(b) requires the Secretary to promulgate implementing regulations. Section 507(c) requires the Secretary to provide for public participation in the development of the management plan. Section 507(d) provides that, pending the promulgation of the comprehensive management plan, the existing Key Largo and Looe Key National Marine Sanctuaries shall continue in their present protected status. Finally, section 507(e) terminates all ongoing Sanctuary designation studies.

SECTION 508.—PENALTIES AND ENFORCEMENT

Section 508 refers to sections 307 and 312 of the MPRSA to provide for the application of existing civil penalties, damages, and enforcement provisions. Under section 508(a), civil penalties under section 307 of the MPRSA apply to violations of this title by citizens or vessels.

Under section 508(b), the Secretary is authorized to enforce this title under sections 307 and 312 of the MPRSA.

Under section 508(c), for purposes of implementing and enforcing this title and regulations promulgated under this title, the territorial sea of the United States extends to 12 nautical miles from the baselines of the United States, as determined in accordance with international law.

SECTION 509.—DESTRUCTION OR LOSS OF, OR INJURY TO, SANCTUARY RESOURCES

Section 509(a) ties general liability for response costs and damage to Sanctuary resources caused by persons to the liability provisions of section 312 of the MPRSA.

Section 509(b) makes liability for response costs and damage to Sanctuary resources caused by vessels subject to the provisions of section 312 of the MPRSA.

SECTION 510.—AUTHORIZATION OF APPROPRIATIONS

Section 510(a) authorizes appropriations of $750,000 for fiscal year 1991 to carry out this title. The authorization is in addition to the funds authorized in section 313 of the MPRSA.

Section 510(b) requires the Secretary to report to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Merchant Marine and Fisheries of the House of Representatives by March 1, 1991, on future funding requirements for the Sanctuary.

ADDITIONAL VIEWS OF MR. DANFORTH

I offer these additional views to express my support for Senator Pressler's amendment to the NOAA Authorization bill for Fiscal Year 1991, which was unanimously adopted by the Commerce Committee at the bill's markup. I cosponsored that amendment because I believe it provides needed strengthening for the existing certification process that the National Weather Service (NWS) must undergo prior to closing any weather service office under its modernization plan. Under current law, the Commerce Department must certify that any weather office closing or relocation will not result in any degradation of service to the affected area.

The problem with the current certification is that it lacks any independent review of the agency's decision by a disinterested party. The NWS, in effect, passes judgment on itself regarding whether the public will be helped or hurt by a particular weather office closing. I believe that the NWS certification must involve some independent review of planned closings. I am pleased that Senator Pressler's amendment will require an independent evaluation by the National Academy of Sciences before the closing or modification of any weather service office.

I am also pleased that Senator Pressler's amendment requires that the NWS identify "blind spots" in the coverage by the Next Generation Radar (NEXRAD) systems that will replace our conventional radar units. To be sure, the NEXRAD system is designed to be much more advanced in detecting weather patterns than present radar. However, in many cases, the implementation of NEXRAD will result in some localities losing their local radar unit.

For example, in Missouri, there are plans to replace the four conventional radar units with three NEXRAD units. Under this plan, the existing radar unit in Central Missouri would be eliminated. Central Missouri would have to rely on NEXRAD coverage from three distant units at the perimeter of the state (near St. Louis, Springfield, and Kansas City). Some scientists are concerned this will leave a blind spot over the central region within which tornado and other severe storm activity may go undetected by the radar coverage. The Pressler amendment forces the NWS to determine whether such gaps exist as part of its certification process.

Finally, I fully support the provision in the amendment whereby the NWS must wait one year after certifying a weather office closing, or change in operations, before the implementation of such action. In Missouri, there is a high incidence of tornadoes and severe storms in Missouri and we have a large farming community. Citizens of my state depend heavily on fast and accurate weather warnings and forecasts. The five year, $1 billion NWS modernization plan, with its NEXRAD system and high technology improvements in weather observation and predictive modeling, promises to usher in a new age of weather forecasting and warning. However,

before we scuttle the existing weather office operations, we need an ample window to see whether the new system not only works but is better than the present one. While the one-year waiting period may, in some instances, result in old and new weather service offices being maintained at the same time, the cost of this temporary redundancy is outweighed by the importance of ensuring that the public welfare is protected by a reliable weather service. The Pressler amendment is a legitimate means of guaranteeing against any degradation of service as of the elements of the NWS modernization plan are phased in.

JOHN C. DANFORTH.

ADDITIONAL VIEWS OF MR. PRESSLER

While I am in general agreement with this legislation, I offered an amendment, cosponsored by Senator Danforth, requiring a certification that changes in weather service operations due to proposed modernization not affect the overall performance and quality of the forecasting and warning capability of the National Weather Service (NWS).

This amendment ensures that an existing weather service office or weather service forecasting office subject to closing, consolidation, automation or relocation will receive a fair impartial review by the National Academy of Sciences (NAS). In particular, this amendment ensures a safe modernization program by examining on a case-by-case basis new technologies and deletion of manpower through automation. These changes must not adversely affect this vital national service. Subject to the National Academy of Sciences report, this amendment guarantees that no "degradation in services" occurs and is an important stopgap by requiring the impartial NAS to assess information from the NWS and the National Weather Service Employees Organization—the operators of existing and new equipment and instruments. Using the information and recommendations provided by NAS, Congress would have a period of one year in which to review the recommendation to enact any necessary legislation.

I believe the Committee acted correctly by adopting my amendment to utilize an independent source for the evaluation of Weather Service facilities. This procedure will guarantee that existing weather warning services are not downgraded through modernization, consolidation and deletion of manpower.

My interest in this matter stems from the situation in my home state of South Dakota. Under the proposed modernization plan, South Dakotans were in danger of losing a vital weather service station in Huron. According to information supplied by the National Weather Service, without the Huron Weather Service the NEXRAD doppler system would not be capable of providing adequate coverage for an area in central South Dakota near our state capital of Pierre. This in-adequacy clearly would produce a "degradation in services." The loss of the Huron station would create weather-related safety problems for aviation and the people who live in the affected area.

South Dakota is not unique in this regard. Many other states face similar situations. Senator Wallop has expressed important concerns regarding "degradation in services" in Wyoming if the weather station at Casper is closed as planned. In reviewing the National Weather Service modernization plan the NEXRAD doppler system located at Riverton would fail to provide adequate coverage of the northeast portion of Wyoming. This is an area known for severe thunderstorms and tornadoes. Pilots and other weather

service information users are concerned with the loss of this vital service. This amendment would ensure that these groups could voice conerns to NAS and, if necessary, to Congress. Modernization can only be safely accomplished by a case-by-case review of each proposed station closure. I am confident that this independent review process will benefit a large number of other states in addition to South Dakota and Wyoming.

The National Weather Service modernization plan is a good idea, provided that services are truly enhanced and that there truly is no degradation of service. To ensure this requires thorough evaluation of the effects of that modernization, including independent information and on site, case-by-case analysis by the NAS. The new, higher technology weather warning system can become a useful tool, but we cannot safely give machines all the responsibilities for weather prediction and warning. We will still need human beings in many instances.

LARRY PRESSLER.

CHANGES IN EXISTING LAW

In compliance with paragraph 12 of rule XXVI of the Standing Rules of the Senate, changes in existing law made by the bill, as reported, are shown as follows (existing law proposed to be omitted is enclosed in black brackets, new material is printed in italic, existing law in which no change is proposed is shown in roman).

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AUTHORIZATION ACT, FISCAL YEAR 1989

Section 408 of that Act

SEC. 408. (a) * * *

[(b) The Secretary may not close, consolidate, automate, or relocate any such office unless the Secretary has certified to the Committee, on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives that such action will not result in any degradation of weather services provided to the affected area. Such certification shall include—

[(1) a detailed comparison of the services provided to the affected area and the services to be provided after such action;

[(2) any recent or expected modernization of National Weather Service operations which will enhance services in the affected area; and

[(3) evidence, based upon operational demonstration of modernized National Weather Service operations, which supports the conclusion that no degradation in services will result from such action.]

(b)(1) The Secretary may not close, consolidate, automate, or relocate any such Office unless—

(A) the Secretary has certified to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives that such action will not result in any degradation of weather services provided to the affected area; and

(B) at least one year has elapsed following the date of such certification.

(2) The certification referred to in paragraph (1) shall be based upon an independent review by the National Academy of Sciences which shall include—

(A) a detailed comparison of the services provided to the affected area and the services to be provided after such action;

(B) any recent or expected modernization of National Weather Service operations which will enhance services in the affected area;

(C) an identification of any areas within any State which would be adversely affected by the loss of manned weather stations;

(D) an identification of any area within any State which would not receive complete and total coverage (at 10,000 feet) by the NEXRAD doppler network; and

(E) a statement of all evidence, based upon operational demonstration of modernized National Weather Service operations, which was considered in reaching the conclusion that no degradation in services will result from such action.

LAND REMOTE-SENSING COMMERCIALIZATION ACT OF 1984

Section 402 of that Act

CONDITIONS FOR OPERATION

SEC. 402. (a) * * *

(b) Any licensee issued pursuant to this title shall specify, at a minimum, that the license shall comply with all of the requirements of this Act and shall—

(1) operate the system in such manner as to preserve and promote the national security of the United States and to observe and implement the international obligations of the United States in accordance with section 607;

(2) make unenhanced data available to all potential users on a nondiscriminatory basis;

(3) upon termination of operations under the license, make disposition of any satellites in space in a manner satisfactory to the President;

(4) promptly make available all unenhanced data which the Secretary *of the Interior* may request pursuant to section 602;

(5) furnish the Secretary with complete orbit and data collection characteristics of the system, obtain advance approval of any intended deviation from such characteristics, and inform the Secretary immediately of any unintended deviation;

(6) notify the Secretary of any agreement the licensee intends to enter with a foreign nation, entity, or consortium involving foreign nations or entities;

(7) permit the inspection by the Secretary of the licensee's equipment, facilities, and financial records;

(8) surrender the license and terminate operations upon notification by the Secretary pursuant to section 403(a)(1); and

(9)(A) notify the Secretary of any "value added" activities (as defined by the Secretary by regulation) that will be conducted by the licensee or by a subsidiary or affiliate; and

(B) if such activities are to be conducted, provide the Secretary with a plan for compliance with the provisions of this Act concerning nondiscriminatory access.

Section 602 of that Act

ARCHIVING OF DATA

SEC. 602. (a) * * *

(b) The Secretary *of the Interior* shall provide for long-term storage, maintenance, and upgrading of a basic, global, land remote-sensing data set (hereinafter referred to as the "basic data set") and shall follow reasonable archival practices to assure proper storage and preservation of the basic data set and timely access for parties requesting data. The basic data set which the Secretary *of the Interior* assembles in the Government archive shall remain distinct from any inventory of data which a system operator may maintain for sales and for other purposes.

(c) In determining the initial content of, or in upgrading, the basic data set, the Secretary *of the Interior* shall—

(1) use as a baseline the data archived on the date of enactment of this Act;

(2) take into account future technical and scientific developments and needs;

(3) consult with and seek the advice of users and producers of remote-sensing data and data products;

(4) consider the need for data which may be duplicative in terms of geographical coverage but which differ in terms of season, spectral bands, resolution, or other relevant factors;

(5) include, as the Secretary *of the Interior* considers appropriate, unenhanced data generated either by the Landsat system, pursuant to title III, or by licensees under title IV;

(6) include, as the Secretary *of the Interior* considers appropriate; data collected by foreign ground stations or by foreign remote-sensing space systems; and

(7) ensure that the content of the archive is developed in accordance with section 607.

(d) Subject to the availability of appropriations, the Secretary *of the Interior* shall request data needed for the basic data set and pay to the providing system operator reasonable costs for reproduction and transmission. A system operator shall promptly make requested data available in a form suitable for processing for archiving.

(e) * * *

(f) After the expiration of such exclusive rights to sell, or after relinquishment of such right, the data provided to the United States remote-sensing data archive shall be in the public domain and shall be made available to requesting parties by the Secretary *of the Interior* at prices reflecting reasonable costs of reproduction and transmittal.

(g) In carrying out the function of this section, the Secretary *of the Interior* shall, to the extent practicable and as provided in advance by appropriation Acts, use existing Government facilities.

(h) In carrying out the functions of this section, the Secretary of the Interior shall consult with the Secretary to ensure that archiving activities are consistent with the terms and conditions of any contract or agreement entered into under title II, III, or V of this Act and with any license issued under title IV of this Act.

Section 609 of that Act

AUTHORIZATION OF APPROPRIATIONS

SEC. 609. (a) There are authorized to be appropriated to the Secretary $295,000,000 for fiscal year 1985 through 1989, or which not more than $125,000,000 shall be available for fiscal years 1985 and 1986, for the purpose of carrying out the provisions of this Act. *There are authorized to be appropriated to the Secretary $36,334,000 for fiscal year 1991 for the purpose of carrying out the provisions of this Act.* Such sums shall remain available until expended, but shall not become available until the time periods specified in section 202(c) and 303(c) have expired.

(b) * * *

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION MARINE FISHERIES PROGRAM AUTHORIZATION ACT

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Section 2 of that Act

FISHERIES INFORMATION COLLECTION AND ANALYSIS

SEC. 2. (a) There are authorized to be appropriated to the Department of Commerce to enable the National Marine Fisheries Service to carry out its Fisheries Information Collection and Analysis duties under law [$26,500,000 for fiscal year 1984, $28,000,000 for fiscal year 1985, $27,382,000 for fiscal year 1986, $28,121,314 for fiscal year 1987, $28,915,392 for fiscal year 1988, and] $29,764,234 for fiscal year 1989 *and $43,152,000 for fiscal year 1991.* These moneys shall be used to fund those duties relating to fisheries information collection and analysis specified by the Fish and Wildlife Act of 1956 (16 U.S.C. 742a et seq.), the Act of May 11, 1938 (16 U.S.C. 755), and the Fur Seal Act of 1966 (16 U.S.C. 1151 et seq.), the Act entitled, "An Act to promote the conservation of wildlife, fish, and game, and for other purposes", approved March 10, 1934 (16 U.S.C. 661 et seq.), and any other law involving such duties. These duties include, but are not limited to, collection analysis and dissemination of scientific data necessary to manage: marine fishery resources, marine mammals, endangered species, and their habitats.

(b) through (c) * * *

Section 3 of that Act

FISHERIES CONSERVATION AND MANAGEMENT OPERATIONS

SEC. 3. (a) There are authorized to be appropriated to the Department of Commerce to enable the National Marine Fisheries Service to carry out its fisheries conservation and management operations duties under law, [$35,000,000 for fiscal year 1984, $35,000,000 for fiscal year 1985, $25,933,000 for fiscal year 1986, $26,633,191 for fiscal year 1987, $27,385,248 for fiscal year 1988, and] $28,189,171 for fiscal year 1989 *and $25,880,000 for fiscal year 1991.* These moneys shall be used to fund those duties relating to fisheries conservation and management operations specified by the Fish and Wildlife Act of 1956 (16 U.S.C. 742a et seq.), the Act of May 11,

1938 (16 U.S.C. 755), the Fur Seal Act of 1966 (16 U.S.C. 1151 et seq.), and the Act entitled, "An Act to promote the conservation of wildlife, fish, and game, and for other purposes", approved March 10, 1934 (16 U.S.C. 661 et seq.), and any other law involving such duties. These duties include, but are not limited to, development, implementation, and enforcement of conservation and management measures to achieve continued optimum use of living marine resources, including hatchery operations, fishery management plan activities, habitat conservation, and protected species management.

(b) through (c) * * *

Section 4 of that Act

FISHERIES STATE AND INDUSTRY ASSISTANCE PROGRAMS

SEC. 4. (a) There are authorized to be appropriated to the Department of Commerce to enable the National Marine Fisheries Service to carry out its fisheries State and industry assistance program duties under law, [$10,000,000 for fiscal year 1984, $12,000,000 for fiscal year 1985, $11,395,000 for fiscal year 1986, $11,702,665 for fiscal year 1987, $12,033,120 for fiscal year 1988, and] $12,386,365 for fiscal year 1989 *and $10,556,000 for fiscal year 1991.* These moneys shall be used to fund those duties specified by the Fish and Wildlife Act of 1956 (16 U.S.C. 742a et seq.) and any other law affecting State and industry fisheries assistance. These duties include, but are not limited to, financial assistance for fishing boats and fish processing plants, market development for fishery products, product quality and grants to States for improving management of interstate fisheries and stimulating fishery development.

(b) through (c) * * *

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